

IN THE CLAIMS:

No claims have been amended herein. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously presented) A drying system for a semiconductor structure comprising:
a vessel having a top, a bottom, and a plurality of at least three sides forming a vessel, the vessel including a semiconductor stage for disposing the semiconductor structure thereon;
a DI water inlet configured to supply DI water in the vessel to at least partially fill the vessel to a level that would allow the semiconductor structure disposed on the semiconductor stage to be submerged in the DI water;
at least one gas inlet configured to supply a gas inert to the semiconductor structure to substantially fill the vessel so that the gas is maintained above the level of the DI water, the at least one gas inlet connected to a fail-shut valve, the at least one gas inlet comprising one of an inlet in the top of the vessel and an inlet in the at least one side of the vessel; and
a plurality of liquid inlets configured to supply a liquid to the vessel so that the liquid is disposed between the DI water and the gas, the vessel configured such that the semiconductor stage having the semiconductor structure disposed thereon and an upper surface of the DI water move relative to each other so that the semiconductor structure is exposed through the upper surface of the DI water to the gas to rinse and dry the semiconductor structure in the vessel.

2. (Original) The system of claim 1, wherein the vessel includes a plurality of outlets therefrom.

3. (Previously Presented) The system of claim 1, further comprising:
at least one outlet in the vessel for allowing the gas or DI water to be removed from the vessel;
and
a fail-shut valve connected to the at least one outlet in the vessel.

4. (Original) The system of claim 1, further comprising at least one outlet in the bottom of the vessel.
5. (Previously Presented) The system of claim 1, further comprising at least one outlet in the at least one side of the vessel.
6. (Original) The system of claim 1, wherein the vessel comprises a plurality of weirs.
7. (Original) The system of claim 1, wherein the vessel includes a plurality of compartments therein.
8. (Original) The system of claim 1, wherein the vessel includes a plurality of compartments therein for allowing flow of liquid in the vessel from one compartment to an adjacent compartment.
9. (Original) The system of claim 7, further comprising:
at least one outlet connected to each compartment of the plurality of compartments of the vessel.
10. (Original) The system of claim 1, further comprising a rinsing apparatus having at least one spray nozzle with a portion thereof located in the vessel.
11. (Original) The system of claim 1, wherein the vessel includes a shelf therein located above the bottom of the vessel.
12. (Original) The system of claim 11, wherein the shelf includes at least one aperture therein.
13. (Original) The system of claim 1, further comprising:
a valve apparatus connected to at least one liquid inlet of the plurality of liquid inlets.

14. (Original) The system of claim 1, wherein the vessel comprises a dry etcher.
15. (Original) The system of claim 1, wherein the vessel comprises a cascade rinser.
16. (Original) The system of claim 1, wherein the vessel comprises an overflow rinser.
17. (Original) The system of claim 1, wherein the vessel comprises a Marangoni dryer.
18. (Previously Presented) The system of claim 1, wherein the semiconductor stage is raisable so that the semiconductor structure is drawn through the upper surface of the DI water to the gas.
19. (Previously Presented) The system of claim 1, wherein the vessel comprises at least one drain to lower the upper surface of the DI water to facilitate exposing the semiconductor structure to the gas.
20. (Previously Presented) A system for a semiconductor structure comprising:
a multi-sided vessel having a top and a bottom, the vessel including a semiconductor stage for disposing the semiconductor structure thereon;
a DI water inlet configured to supply DI water in the vessel to at least partially fill the vessel to a level that would allow the semiconductor structure disposed on the semiconductor stage to be submerged in the DI water;
at least one gas inlet configured to supply a gas inert to the semiconductor structure to substantially fill the vessel so that the gas is maintained above the level of the DI water, the at least one gas inlet connected to a fail-shut valve, the at least one gas inlet comprising one of an inlet in the top of the vessel and an inlet in the at least one side of the vessel; and

a plurality of liquid inlets configured to supply a liquid to the vessel so that the liquid is disposed between the DI water and the gas, the vessel configured such that the semiconductor stage having the semiconductor structure disposed thereon and an upper surface of the DI water move relative to each other so that the semiconductor structure is exposed through the upper surface of the DI water to the gas to rinse and dry the semiconductor structure in the vessel.

21. (Previously Presented) The system of claim 20, wherein the vessel includes a plurality of outlets therefrom.

22. (Previously Presented) The system of claim 20, further comprising:
at least one outlet in the vessel for allowing the gas or DI water to be removed from the vessel;
and
a fail-shut valve connected to the at least one outlet in the vessel.

23. (Previously Presented) The system of claim 20, further comprising at least one outlet in the bottom of the vessel.

24. (Previously Presented) The system of claim 20, further comprising at least one outlet in the at least one side of the vessel.

25. (Previously Presented) The system of claim 20, wherein the vessel comprises a plurality of weirs.

26. (Previously Presented) The system of claim 20, wherein the vessel includes a plurality of compartments therein.

27. (Previously Presented) The system of claim 20, wherein the vessel includes a plurality of compartments therein for allowing flow of liquid in the vessel from one compartment to an adjacent compartment.

28. (Previously Presented) The system of claim 27, further comprising:
at least one outlet connected to each compartment of the plurality of compartments of the vessel.

29. (Previously Presented) The system of claim 20, further comprising a rinsing
apparatus having at least one spray nozzle with a portion thereof located in the vessel.

30. (Previously Presented) The system of claim 20, wherein the vessel includes a
shelf therein located above the bottom of the vessel.

31. (Previously Presented) The system of claim 29, wherein the shelf includes at least
one aperture therein.

32. (Previously Presented) The system of claim 20, further comprising:
a valve apparatus connected to at least one liquid inlet of the plurality of liquid inlets.

33. (Previously Presented) The system of claim 20, wherein the vessel comprises a
dry etcher.

34. (Previously Presented) The system of claim 20, wherein the vessel comprises a
cascade rinser.

35. (Previously Presented) The system of claim 20, wherein the vessel comprises an
overflow rinser.

36. (Previously Presented) The system of claim 20, wherein the vessel comprises a
Marangoni dryer.

37. (Previously Presented) The system of claim 20, wherein the semiconductor stage is raisable so that the semiconductor structure is drawn through the upper surface of the DI water to the gas.

38. (Previously Presented) The system of claim 20, wherein the vessel comprises at least one drain to lower the upper surface of the DI water to facilitate exposing the semiconductor structure to the gas.